

Stakeholder perspectives on mariculture and tourism interaction in coastal communities in South Carolina and Florida

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Why tourism & mariculture?

- Coastal destination settings
- Economic diversification for fishing communities
- Increased interest in local seafood, but supply is limited
- Opportunities for unique tourism experiences
- Opposition to “farming” in other coastal communities

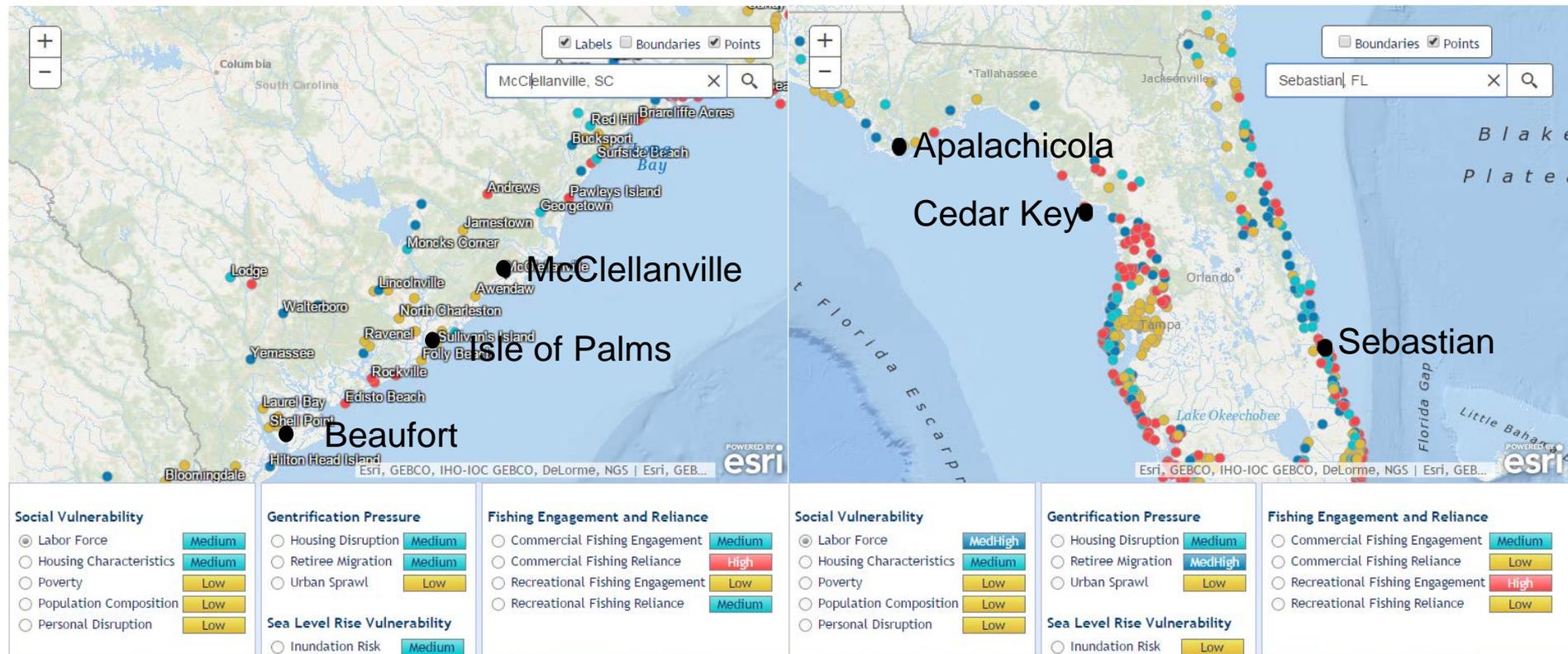


Study Objectives

1. Identify perceptions of community representatives regarding mariculture in 6 coastal tourism communities in the US Southeast (3 SC + 3 FL).
 - Interviews
2. Assess public (resident and tourist) perceptions about mariculture in these communities.
 - Focus Groups, Tourist and Resident Surveys
3. Identify targeted marketing/outreach strategies and disseminate recommendations to communities, industry and coastal management agencies.

Methods – community selection

- Advisory committee & Literature review (e.g., farm permit locations)
- NOAA Social Indicators database



Methods – community selection

Mariculture	Tourism		
	HIGH	MEDIUM	LOW
HIGH		Cedar Key, FL	
MEDIUM	Beaufort, SC Isle of Palms, SC		McClellanville, SC
LOW		Sebastian, FL	Apalachicola, FL

Methods - Interviews

- On-site stakeholder Interviews (Fall 2013-Spring 2014)
 - South Carolina (N=22)
 - Florida (N=29)

- Interview analysis
 - Recordings transcribed
 - Data management in excel spreadsheet
 - Two independent coders
 - Identified emergent themes related to questions
 - Open coding, thematic

Interview Questions

- Support and awareness of mariculture?
- **Benefits** of mariculture to coastal tourism and vice versa?
 - Importance of **local supply/demand**?
 - Existing and potential **tourism/mariculture relationships**?
- **Constraints & conflicts**?
- **Promotion, outreach & education**?

Overall Themes

1. Mariculture can benefit and strengthen the coastal tourism industry
2. Potential for sustaining/expanding mariculture in the coastal tourism communities depends upon a six key factors

Mariculture can benefit and strengthen the coastal tourism industry

- **Assuring local seafood supply**
 - Addressing seasonality
 - Diversification of product

“Our product is available when other products might not be available” (Chef Association representative, Charleston, SC)

“[Singles are] really going to supply to the restaurants, it will give us a stable supply to keep the restaurants in the oysters...what we want is to pull up a bag of singles for the restaurants when they want it.” (Shellfish farmer, McClellanville, SC)

Mariculture can benefit and strengthen the coastal tourism industry

*“Most tourists believe that it is local, which is great, but also a lot of restaurateurs lead tourists to believe that and actually it is not... Sometimes they claim a fish or crustacean is fresh or local when it is not seasonal, when it is out of season. It’s not available or the season has been closed.”
(Chef Association representative, Charleston, SC)*

- **Retaining authenticity in the local seafood product**
 - Community identity and promotion as a seafood destination
 - Trust/ mistrust through the ‘frontline’ of the seafood industry



Mariculture can benefit and strengthen the coastal tourism industry

Creating unique opportunities

- The experience is the product
- Value-added opportunities
 - Eco-tours
 - Processed food product
 - Oyster Roasts
 - Weddings and Special Events
- Resource management organizations can help link tourist and aquaculture education
 - Tours, Interpretative programming
 - Demonstrations
- FAM tours

*“I think people more and more are **looking for the experience**. Not so much going to Disneyland, but going to shrimp docks for the experience... If you look at the fish cleaning table, there will be three deep of people in the afternoon just watching the cleaning of huge massive fish. They slice off a piece and hand it up to them. You cannot get any fresher than that.” (Marina operator, Isle of Palms, SC)*



Sustaining/ Expanding Mariculture

Industry Capacity

■ Strengths:

- Adaptability
- Entrepreneurship
- Innovation
- Good reputation

■ Weaknesses:

- Leadership
- Risk aversion
- Time
- Poor reputation

“We discovered a small market for small clams...Several years ago I decided to dedicate to that market and [now] we are the only ones on the east coast grow[ing] that particular product...We grade them by hand.” (Shellfish farmer, Isle of Palms, SC)

“We got a lot of repeat business and people just feel cool to have ‘a guy’...We get a lot of referrals from friends.” (Shellfish farmer, McClellanville, SC)

“If you are busy here with the farming and running clams and processing and trying to meet the truck, you really don’t have any time to go use that idea you may have, unless the rain shuts us down.” (Shellfish farmer/retailer, Cedar Key, FL)



Sustaining/ Expanding Mariculture

Environmental quality

- Coastal protected areas are valuable to mariculture & attracting nature-based tourism

*“We are in the Ace Basin. All those areas, and the WMAs, that is job security for us.”
(Shellfish farmer, Beaufort, SC)*

*“You will potentially have the long term sustainability of the coastal community’s reliance on water quality that supports the nature based tourism, the commercial and recreational fisheries and what I consider, their future and emerging potential for aquaculture.”
(Protected area manager, Cedar Key, FL)*



Sustaining/ Expanding Mariculture

Conflicts

- Spatial
- Ecological
- Boating
- Wild vs. Farmed
- NIMBY

“If you take deeper water [for oyster aquaculture], you start impeding on shrimpers.” (Shellfish harvesting representative, Apalachicola, FL)

“I do see a lot of the clam mesh, that...get’s washed up on the beaches; so it can be buried under the sand. It can interfere with turtles nesting or hatching.” (Protected area manager, McClellanville, SC)

“A skier came in and tore up the nets which let all the crabs and stingrays in.” (Shellfish grower, Isle of Palms, SC)



Sustaining/ Expanding Mariculture

Constraints

- Waterfront access
- Cultural perceptions
- Regulatory
- Awareness
- Time

*“The bottleneck is where the water meets the land. You got to have a shore side facility...it is not something a lot of people like to look at.”
(Shellfish farmer and community leader, Sebastian, FL)*

“You are working with the tides when you are farming something on the water, and that doesn’t always work out well with the times that [tourists] would want to go.” (Shellfish farmer, Cedar Key, FL)



Sustaining/ Expanding Mariculture

Outreach & Education as Promotion

- Retailers educating customers
- Restaurant/Chef learning from farmer & educating wait staff
- Nature-base tourism interpretation of farms
- Mariculture facility tours
- Destination promotion highlighting local farming

“If we are educated as restaurateurs we can teach our teams and really talk about the sustainable seafood initiative, talk about farm raising.” (Chef association leader, Charleston, SC)

“[The visitors] want to learn and be educated about things in their environment. In addition ,...I have the opportunity to share clam farming, and what that is all about.” (Nature-based tourism provider, Cedar Key, FL)

We have travel writers that come from all over the world. They come to our office, and...they have heard about the clam industry. ...So we set them up with a clammer and we get them out. (Tourism promoter, Cedar Key, FL)



Sustaining/ Expanding Mariculture

Community Support

- There is good support for local seafood and increasing support (and demand) for farmed shellfish

“We are selling most of our clams within 50 miles. Charleston is a huge clam market and it’s getting stronger every year. Every little seafood market that I’ve got...used to buy a bag of clams every two weeks, now they are wanting four or five every other day.” (Wholesaler, McClellanville, SC)

“As far as tourist acceptance I do not think it would be an issue, as long as it didn’t make the place look like a big old industry, instead of a natural area. I think they would support it, if they got nice fresh raw oysters.” (Shellfish farmer/retailer, Cedar Key, FL)



Sustaining/ Expanding Mariculture

Institutional Support

- State support is strong for mariculture development, but there are some problems

“The state is very willing to work with ideas. You can go to state and say I got this idea, I think the state would work with you. There is nothing is hindering us, it’s just people’s ability to actually do it.” (Shellfish farmer/retailer, Cedar Key, FL)

“South Carolina, once they knew that we are serious what we had backing us and behind us, they see professionalism in the way we handled it and maintain everything, they are open hands. We can work with SCDNR to create an experimental permit.” (Shellfish farmer, Beaufort, SC)



Conclusions

- Overall, there is support for mariculture in the SE
- The current level of mariculture on the SE coast is not problematic
- Interest in maricultured products is increasing
- Mariculture enhances availability of local seafood
- There is interest in tourism mariculture
- There are opportunities for tourism and mariculture to partner but constraints and conflicts need attention
- Future expansion should involve both tourism and seafood industry sectors in promoting and provide outreach.
- Farmers focusing on niche, regional, and culinary specialty markets are successful (but must overcome capacity issues)





Questions?

Interview → Survey

“Would they like to see something that gives a little more information on where the product is coming from, who are the people bringing it, or do they just not care. I think people do care. I think it is something that is interesting, but don’t know whether it would persuade them to order one way or the other.”

Shellfish Grower, Isle of Palms, SC

How important is the following information to your decision on which seafood to purchase?	Tourist (N=531)		Resident (N=640)	
	Mean ¹	SD	Mean	SD
When the seafood was harvested*	4.07	1.09	4.35	0.92
Where the seafood was harvested*	3.66	1.16	4.13	0.93
How the seafood was harvested*	3.20	1.26	3.69	1.13
Is labelled "wild-caught"*	3.10	1.38	3.65	1.23
Who harvested the seafood*	2.89	1.27	3.49	1.25
Is labelled "marine farmed"*	2.85	1.34	3.32	1.31
Has a recognizable brand name *	2.34	1.33	2.86	1.32

¹Scale is 1=Not Important, 5=Extremely Important; *Significantly different at p<.05.

Primary concerns

- Tourism: Aesthetics & impact on marine recreation activities
- Fisheries: Competition for waterfront access



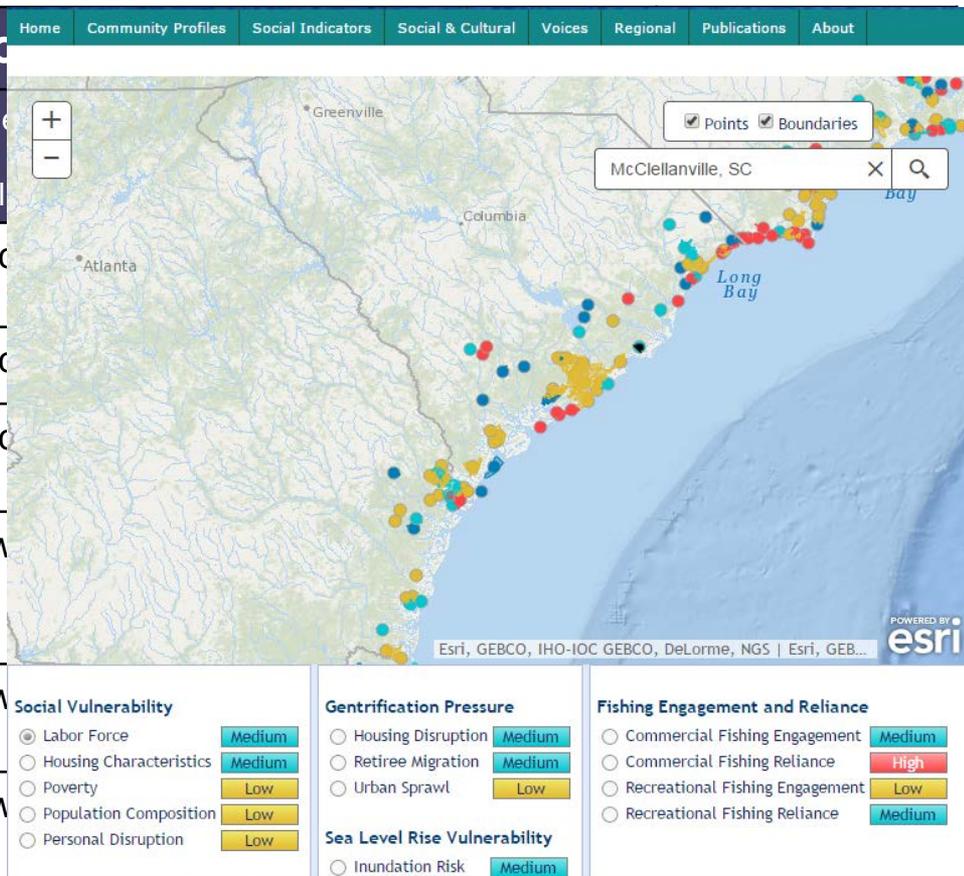
Geoduck aquaculture, Washington coast.
<http://protectourshoreline.org/>



<http://www.postandcourier.com/>

Research communities

Community	NOAA Social Vulnerability Index		
	Social Vulnerability	Gentrification	Social Vulnerability
McClellanville, SC	Med/Low	Med	Med
Isle of Palms, SC	Low	High/Med	Med
Beaufort, SC	Med/High	Low	Med
Apalachicola, FL	Med/High	Low	Low
Cedar Key, FL	Med/High	Med/High	Low
Sebastian, FL	Medium	Medium	Low



Results – stakeholder response

Location	Seafood Industry			Tourism Industry					Marine Resource Agency	
	Shellfish Farmer	Retail/ Wholesale	Restaurant	Promotion	Lodging	Museum	Nature-based	Marine rec	Research Facility	Protected area
SC (N=22)										
Beaufort	3			2			2		1	
Isle of Palms	3		1				3	2		
McClellanville	5	1	1				1			1
FL (N=29)										
Cedar Key	6	2		1	1		3	1		1
Apalachicola	3	1	1	1	1	1	1			1
Sebastian	1	1	2	2	1		2			1